

MINUTES

(Subject to the approval of the Committee)

ENERGY, ENVIRONMENT & TECHNOLOGY INTERIM COMMITTEE

Wednesday, September 18, 2008

Capitol Annex, Room 204, Boise, Idaho

The Energy, Environment & Technology Interim Committee was called to order by **Co-chairman George Eskridge** at 8:04 a.m. on Thursday, September 18, 2008. Members present were: Co-chairman Representative George Eskridge; Senators: Patti Anne Lodge, Russ Fulcher, Kate Kelly and Elliot Werk; Representatives: Maxine Bell, Eric Anderson, Bert Stevenson, and Ad Hoc Member Wendy Jaquet. Members excused were: Senators: Co-chairman Curt McKenzie and Mike Jorgenson and Representatives: Ken Andrus, Bob Nonini, Elaine Smith and Ad Hoc Member Representative Mark Snodgrass. Staff members present were Mike Nugent and Twyla Melton.

Others present were: Representative Dell Raybould, Co-chairman of the Natural Resources Interim Committee; Micah Kormylo and Jeremy Pisca, Evans Keane; Holli High, Exergy Development Group; Betsy Bridge, Idaho Conservation League; Jeff Burns, Renewable Energy Resources; Beth Markley, Idaho Council on Industry and the Environment; Ron Williams, Idaho Consumer Owned Utilities Assoc.; Suzanne Leta Lidu, Renewable Northwest Project; Brenda Tominaga, Idaho Irrigation Pumpers Assoc.; John Eaton, Idaho Association of Realtors; Neil Colwell, Avista Corp.; Colby Cameron, Sullivan & Reberger; Martin Bilbao, Connolly, Smyser Ltd.; Ken Baker, Association of Idaho Cities (AIC); John J. Williams, Bonneville Power Assoc. (BPA); Ken Miller and Liz Woodruff, Snake River Alliance (SRA); Lon Stewart; John Ireland, Idaho Department of Commerce & Labor; Rhys Roth, Climate Solutions; Rich Rayhill and Steve Voorhees, Ridgeline Energy; Rich Hahn, Idaho Power; Stephen Gibson, Governor's Office; Jim Yost and Shirley Lindstrom, Northwest Power & Conservation Council; and Brooke Murdoch, Legislative Services Office.

NOTE: All copies of presentations, reference materials, and handouts will be on file at the Legislative Services Office (LSO).

Co-chairman Eskridge referred to yesterday's motion to send the Public Utilities Commission legislation to the germane committee. There were people who indicated they would have liked to testify and, with the concurrence of the Committee, that opportunity will be extended to them at the next meeting. The Committee agreed.

The first speaker on the agenda was **Rhys Roth**, Climate Solutions, on the subject of "Securing

Idaho's Energy Future," a study commissioned by Climate Solutions and conducted by Athena Institute, a private consulting firm with expertise in a variety of clean technologies. **Mr. Roth** provided an overview of that study. (A full set of overheads and handouts are on file at LSO.) The object was not to replicate the work the Legislature did in 2007 when the Idaho Energy Plan (Plan) was adopted. This study looked at two key findings from the 2007 Plan and built on those findings.

One of the findings from the plan was that Idaho imports 80% of its energy; this study addressed those economic implications. The second finding was that the top priorities were renewables and energy efficiency. **Mr. Roth** pointed out that this was a small budget study and didn't undertake new, complex modeling and analysis and was not meant as a final word or answer to all questions. This study relied on existing data. The data is a little more spotty than what could be expected to thoroughly characterize how much energy efficiency and renewable energy is available and cost-effective for Idaho.

Idaho imports 80% of its total energy including transportation petroleum, natural gas, coal, hydro, etc. Idahoans spent over \$3.7 billion for energy in 2007, and most of that money leaves the state's economy and most of that energy is in the form of fossil fuels. Idahoans are using more energy per person than any other Northwest state or province.

Idaho's economy has been built around access to affordable, cheap energy enabling it to attract energy-intensive industries so it is a bedrock for the economy; that is now at risk. Importing energy such as oil, coal and natural gas is draining billions from the state's economy and the energy demand is growing: 503 Tbtu's in 2004 to 650 Tbtu's in 2025. Increased cost, competition, and regulations are putting pressures on Idaho's existing energy portfolio. Idaho is fossil fuel poor, but is rich in renewables. The study concluded that Idaho could supply one-half its energy needs from in-state resources by 2025 instead of importing 80%. This could come from efficiencies, wind power, solar power, geothermal, biofuels, and hydro. There are some caveats to these projections. The data is not strong and had to be accumulated from a variety of sources; however, since 1983, the Northwest has saved enough electricity to power Idaho and western Montana at less than three cents per/kwh.

Representative Bell asked if there were any details on how that savings was effected. **Mr. Roth** said that it comes from the Northwest Power and Conservation Council (next on the agenda) and that their Web site has a wealth of resources.

Representative Jaquet referred to the data from other states and asked who would collect data for Idaho and how could it become more robust. **Mr. Roth** responded that setting up an Office of Energy Resources would put Idaho in the position to collect that data. This would provide a department dedicated to energy that would collect data, determine strategies, and monitor all energy-related activities. There are enormous amounts of technology coming that will generate large amounts of capital investment.

There are many benefits from energy efficiency and renewable energy which would buffer families, farms, and business from escalating energy costs, cut energy costs, keep \$3.0 billion spent on energy within the state, add new capital investment, and create new jobs.

Senator Kelly asked if the jobs that are generated are mostly construction jobs. **Mr. Roth** said that there is a burst of construction jobs the first two years and then maintenance and operation jobs, both are well-paying jobs for young people and good for rural communities. **Co-chairman Eskridge** wanted to know, for a typical wind project, how many jobs are permanent jobs. **Mr. Roth** stated that he thought, on a 100 megawatt farm, there would be two permanent jobs.

There are large wind farms in operation and being constructed due to a federal law passed in 1999 that set standards for renewable energy, and now there is an enormous investment in wind and economic development. **Mr. Roth** used Texas as an example of the growth that has occurred since that law was enacted.

Senator Werk asked if Texas has a law that mandates some percentage of its energy portfolio to be in renewable resources. **Mr. Roth** answered that they set a target that, within a certain time frame, would produce a certain amount of wind power and directed the utilities to meet that goal. Private investment flowed into the state and they surpassed the original goal and have increased the goal over time. Large capital investment continues to be made in Texas.

Representative Eskridge requested confirmation that Texas passed a law that required the utilities to buy so much wind power and asked if there were any price factors built in. **Mr. Roth** responded “yes” and said there was a law passed and a price “off ramp” that allowed the utility to quit buying if the price went above a certain rate.

Idaho has assets that could be used to create a new industry and, on a global market, renewables are growing at an increasing rate. Venture capital is investing in innovative new energy technology. There are a whole range of options that may or may not be appropriate for Idaho. Tax credits, system benefit charges which add a tax on all electric power and reinvests it in cost-effective projects that control the costs of all energy, and renewable portfolio standards. **Senator Fulcher** asked what the retail electricity rates are like in Texas. **Mr. Roth** could not answer that question but said he would find out. **Rich Hahn**, Idaho Power, addressed the question. He said that Texas is a state where customers have choices and can go to a Web site and choose a portfolio of energy. Rates in Texas average between 18.5 and 21.0 cents per kwh. **Mr. Roth** said that in states where rates are higher, it is easier to develop good renewable energy. Policy tools are important for Idaho to increase renewable energy and energy efficiency here. There should be a state energy security plan that would set goals for reducing the amount of energy imported, measure progress, and make someone accountable for providing the leadership to reduce the amount of imported energy.

Representative Jaquet commented on the content of the main report, saying that it has good information and also pointed out opportunities for new jobs. The Department of Commerce is

working on ways to identify and implement the types of training needed for these jobs.

Senator Fulcher said that he was trying to get a grasp of the industry opportunity here for the scale that is being discussed. The amount spent on energy was \$3.7 million in Idaho in 2007; he asked: “What would that number be if transportation was subtracted out.” **Mr. Roth** answered that petroleum is about 45%. **Mr. Roth** said he would get the actual number. **Co-chairman Eskridge** agreed that was an important number to have.

Senator Werk referred to the Oregon model which indicated that Oregon has a surcharge on energy that goes into a trust fund; that fund is used to invest in tax incentives for renewable energy projects, and he asked for some details. **Mr. Roth** stated that there is a two or three percent charge on energy bills and that money goes into the Oregon Energy Trust whose mandate is to find cost-effective ways to invest that money to control costs for the overall energy system, help advance in-state resources, and invest in low income weatherization. **Senator Werk** asked if the trust was a governmental entity, a private entity, or a quasi-private/governmental entity and who is on the board. **Mr. Roth** responded that he thought it was in the quasi category, adding that it is a non-profit the Legislature has to authorize and, in that sense, is accountable to the Legislature.

Representative Bell stated that it is obvious that Texas has not done much for the consumer’s rate, asking where is the optimum in renewables to make sure a reasonable base rate is maintained and where is the balance. **Mr. Roth** answered that there must be a balance and economic cost effectiveness should always be one of the criteria. When policy is set, it should leverage private investment so it would be cost effective.

Senator Werk remarked on the solid base of low cost electricity through Idaho Power that existed in Idaho. He said that any additional source of energy would drive that cost up because there is no opportunity to build another big dam. There is a delicate balance that the Legislature faces to maintain balance as the energy portfolio is extended.

Representative Anderson reminded the Committee that standards vary from state to state and province to province, adding that the potential is different from state to state. He believe it is important to be very mindful of the resources in Idaho as Renewable Portfolio Standards (RPS) are discussed. Idaho has a lot of potential for hydro because of irrigation ditches and other possibilities.

Senator Kelly added that several surrounding states have adopted RPS. They have to supply the market with a certain percentage of renewable energy, and there is a possibility that Idaho could be an exporter of renewable energy.

Representative Anderson followed up on **Senator Kelly’s** comments. He said that legislation last year, HB500, established a school endowment fund that, in addition to other renewable energy issues, allows funding for training in the renewable energy field, there being a tremendous

potential for renewables in Idaho. He said that what can't be used here can be exported. The surrounding states do not have the ability to fulfill the requirements in the standards that have been set. **Mr. Roth** agreed with that point, saying that there is a need to regionally coordinate and discuss how Idaho can help those states meet their requirements.

Representative Stevenson said he was concerned with the renewables that depend on woody biomass and the effect the carbon footprint has on the cost of producing those products. If carbon dictates what is done here, then the dollar amount will have very little to do with it. A developer of a woody biomass generating facility has to buy credits; that could be more serious than anticipated.

Representative Anderson added that there are some discussions occurring about a carbon tax and carbon credits that can be purchased. He mentioned woody biomass and slash that is currently being burned under the Forest Practices Act; he said this may be in the preliminary supplementals that could be attached to an energy plan. He said there could be a tax credit on those programs and logging operations if they find a means to dispose of slash in a different way. The EPA will probably be the one to create those regulations, so, if woody biomass is used, water vapor is a big transporter of climate change. Carbon is a very large component; when the wood is dried and the water removed, credits might be returned. An effort focused on this issue is being put forward.

Representative Stevenson requested that a future meeting include carbon trading and what will be included because the seminar he attended at BSU did not indicate that there was going to be any credits allowed for the treatment of slash. The promotion at that meeting was that there would be a tax attached to any burning.

Representative Anderson stated that there is need for a national dialogue, not regional, to know what all of these things mean. There is a lot of discussion about what carbon taxes will look like and there is much frustration. There are people across the country that are talking about entirely different things for the same subject.

Representative Stevenson did not disagree with **Representative Anderson's** analysis, but said there may be another issue arise that will take some of that out of the mix and there may not be the core renewables we think we have.

Representative Jaquet commented that biomass is in flux and we need to keep informed, adding that there is also good geothermal, great solar, and wind. She said when talking about a renewable portfolio, Idaho has tremendous potential without even turning to biomass until the issues are resolved. There are creative things happening around the country and what the committee can do, now that the framework and energy plan are in place, is pick and choose where the committee wants to go.

Representative Raybould suggested that future hydro power had been left out of the discussion;

there are hundreds of beautiful hydro power sites that can be developed environmentally and there is no carbon footprint. He said that baseload could be generated that is not being obtained by other technologies. If there is going to be more wind power, there must be more baseload. Hydro power must be put back into the discussion.

Senator Werk commended the discussion but added that the cheapest power source is not to use power. Being conservative and wise in the use of energy is the most cost effective.

Co-chairman Eskridge noted that the discussion began with the fact that energy efficiency was one of the resources that could be used to reduce the amount of imported energy.

Representative Jaquet was surprised at the \$2.5 million paid to the landowners in Texas versus the \$72.0 million payroll which is probably a lot of construction. If this is an economic advantage to rural communities, that amount of money did not seem like very much. **Rich Rayhill**, Ridgeline Energy, stated that the landowner gets about a 3% royalty. **Steve Voorhees**, Ridgeline Energy, said it is a function off the revenue generated. The landowner can make \$7,000 to \$10,000 per year with no capital cost, depending upon how much land and how productive the wind is and what the power price is; this is a pretty good revenue. **Senator Fulcher** asked for clarification that the 3% was of the gross wholesale amount purchased from the landowner of that particular unit or is it the gross amount of the retail. **Mr. Vorhees** said that in the gross amount purchase agreement with the utility, the utility is buying a block of power over a twenty-year period of time and it is at the gross wholesale price.

Representative Jaquet did not think that was much money over time; it may be good now but not over the twenty-year period. **Mr. Vorhees** responded that, in many cases, there was an escalator over time. **Co-chairman Eskridge** inquired if a twenty-year contract was typical. **Mr. Vorhees** agreed that it was. **Co-chairman Eskridge** asked if state lands were being looked at. **Mr. Vorhees** said there were several locations on state lands and they looked promising. **Co-chairman Eskridge** commented that, theoretically, the state lands could be generating \$7,000 to \$10,000 per-year, per-quarter acre. **Mr. Vorhees** pointed out that the footprint is very small, so if the land has other uses, those can continue. The footprint must be where there is wind, so it wouldn't be every quarter acre.

Representative Raybould commented that there is a new hydro power project that has been approved and licensing issued for an irrigation diversion dam north of St. Anthony on the Snake River. This opportunity exists all up and down the river to provide good, clean power. If there is no base power to back up wind, there is a blackout.

Mike Nugent, LSO, stated that an INL expert reported at an energy subcommittee meeting in 2006 that they estimated that 2,000 megawatts was available in various streams for hydro power. **Representative Raybould** said that some engineers came over from Portland, Oregon and reviewed an area of canals where there are checks about every one-half mile in those canals for irrigation diversion. There could be turbines put into those checks that would generate a lot of power. This is only during irrigation season, but it is also during peak power season. There are

opportunities out there that must be explored.

Representative Anderson followed up on the INL study. An environmental study revealed that out of 3800 megawatts available, 2180 remain after adjustments are made.

Representative Bell asked if the transmission lines and grid are available for this type of small project. **Representative Raybould** replied that usually, in those instances, there are power lines right next to the canals and irrigation facilities that are servicing irrigation pumps, so there is the ability to either transfer the power or use it in the area where it is being generated.

Co-chairman Eskridge requested that a hard copy of the report **Representative Jaquet** referred to be sent to the committee members.

Co-chairman Eskridge had those attending the meeting introduce themselves. He then introduced **Jeff Burns** who had some information on woody biomass. **Mr. Burns** stated that his understanding was that when woody biomass is being burned, carbon is being released but it is carbon neutral because that tree absorbed the carbon so just by burning it, all that is being done is releasing what had been absorbed. If the tree would die in the forest and decay, it would still release that carbon. The same principle applies to a fire going through the forest. It is causing those trees to release carbon but again, it is carbon neutral because it is carbon that the tree has absorbed.

The second presenter was **Jim Yost**, Idaho's Representative to the Northwest Power & Conservation Council (Council). (Copy of full presentation on file at LSO.) **Mr. Yost** reported that this presentation on energy is a work in progress and was put together at the Governor's request in a coalition with **Jim Kempton** of the PUC, **Paul Kjellander**, Office of Energy, Department of Commerce, Idaho Power and Office of Species Conservation. This draft has been circulated, but all comments have not come back. There are some updates coming to the Council but it is almost complete and the issues are stated, although the numbers may change. This is a trial run of this presentation on Energy in the Northwest. **Mr. Yost** explained how the Council was created and what the objective of the Council was as required by the 1980 Northwest Power Act. There are three major positions:

- 1) Prepare and adopt a regional conservation and electric power plan to assure the Northwest an adequate, efficient, economical and reliable power supply.
- 2) Prepare and adopt a regional program to protect, mitigate, and enhance fish and wildlife.
- 3) Secure public input and provide information services to the general public.

Mr. Yost said that as a start, to meet these challenges, a draft amendment to the fish and wildlife program was written and it has been put out for public comment and hearings. The preparation of the sixth Power Plan and Fish and Wildlife Program, which is required to be updated every five years, is in process. As the Power Plan is prepared, the region is in agreement that conservation

and efficiency is the cheapest and that is where attention should be focused. There are a variety of other issues and challenges that must be considered as well. One of the major issues is transmission constraints for receiving and delivering energy.

Mr. Yost said that since its inception in 1980, the Council has achieved 3700 megawatts of energy conservation, which is equal to 40% of the growth in electricity over the last 25 years in the Northwest, at a cost of less than 3 cents per kilowatt hour. About another 3000 megawatts has been identified for conservation at the same cost. Demand response allows that programs can be put into place during peak hours of usage during the day to save very expensive power at the peak load. **Mr. Yost** continued to explain the various sources of power and what their application might be. Peaking capacity was put on hydro, coal, and geothermal. Those are generally considered baseloads and not peaking opportunity. The logic and discussion occurring in the region is, if there is a source running at about 90% of capacity, there is a little bit of flexibility left in the system to go to 100% of generating capacity. That small portion could go to load peaking or operational changes. **Mr. Yost** said that there are choices that have risk factors as well. Some are capital intensive, some are fuel intensive; they could have a high carbon generation, and some no carbon generation. There is a mixture of facts that must be applied whenever an energy source is considered.

Representative Jaquet thought it would be important to separate the small from the large hydro projects and show the cost related to each. **Mr. Yost** stated that there have not been large new hydro facilities built in the last three decades; however, several hydro projects are being reviewed by the Bureau of Reclamation and Corps of Engineers. The Corps is doing the studies to show what the costs would be; costs are in constant flux. Wind and natural gas price costs of generation have increased over the last several years, some due to construction and some due to higher gas prices.

Senator Kelly asked if other states are ahead of Idaho on conservation and efficiency opportunities and benefits, and does Idaho have more opportunities. **Mr. Yost** answered that Idaho isn't really lagging behind; in fact, it is leading in several areas. He said there are different kinds of opportunities here than in other places; other places show more conservation because they have more people, so they don't have to have as much conservation per individual to make a difference in their energy supply. Another point, other regions are winter peaking and Idaho peaks in the summer. He said that there are many differences in how adjustments are made for both those situations. Growth in demand region-wide is projected to be 1% with conservation and 1.4% without. Idaho's growth is anticipated to be 1.4%. There must be a 1.4% reduction in carbons to be carbon neutral today.

Mr. Yost said that an extensive process is in progress to determine how much energy is required in the region, how much is produced, and what the balance is. There are Resource Adequacy Standards that set a minimum threshold with an Energy Standard, a Capacity Standard, Regional Demand/Load Requirement and whether Energy Sources are firm, probable and what is the net. Right now there is enough energy to supply the customers in the Northwest; although there may

be enough in the Northwest, it may not be available to every utility. There are transmission constraints in both receiving and distributing energy, and it is difficult to keep transmission consistent. In the winter there is about a 23% favorable balance, and in the summer about 24%. There are certain requirements on resource availability and those are close to the allowances that are required. There needs to be additional generation in the out-years, and that should be available within five years, which will allow a favorable balance.

Senator Werk stated that at some time, technology in storage will catch up and level out the peaks and valleys for wind power. He asked if, in this purview, are you looking at those technological advances. **Mr. Yost** responded that in the Northwest, they are trying to determine collectively how to figure out a way to smooth this out so the system will work within the standards of reliability and safety. There are projects being reviewed because there is no choice but to find an answer to this problem until technology catches up. **Representative Jaquet** asked if work was being done to follow the path of the wind and put turbines in that corridor. **Mr. Yost** said they have the data that shows where the wind is; there are some people that don't want wind where the wind is, the question being how to stabilize it. There is some opportunity with a hydro system, but there are constraints there as well. In the short-term, it looks like gas peakers will be one of the answers.

Mr. Yost said that the hydro system is overloaded; it is used for fish, power generation, flood control, transportation, irrigation, and recreation, and Idaho is in a most difficult situation. There are proposals for a new transmission line from Wyoming to McNary, but that will take four or five years. Prices of oil, gas, heating oil, natural gas, and electricity have all increased substantially. Flexibility of the hydro system has been removed by state and federal regulations. The reality of wind is about 5%. It is hard to predict and balance the system, and a plan must be devised to overcome these challenges.

Senator Werk requested an explanation of "combined cycle." **Mr. Yost** explained that there are two types of gas-fired turbines. One is a single cycle that just has to be turned on and it runs at one level; a combined cycle can be regulated at different rates and has less carbon emissions and more control. Adjustment can be made to the output of energy, but it is not very conducive to going up and down, and that flexibility is needed in gas turbines.

Senator Kelly asked if this discussion is about adding new wind, not the wind that is currently in the system. **Mr. Yost** answered that he is talking about turning off the wind if a way is not found to control it, and that has been done with certain farms. If you can't balance wind with the flexibility of the hydro system, gas fired turbines, or whatever system is being used, then it has to be shut off. The more wind that is added, the more controls must be added; the entire region is struggling with this issue. **Senator Kelly** wanted to know if, when the wind farms are constructed, isn't there a contract that requires there be someone to make the adjustments. **Co-chairman Eskridge** added that the problem may be the volatility of the wind, it is not a steady energy supply, fluctuates up and down, and can't be balanced out. **Mr. Yost** said all the utilities want to buy wind; it is the popular thing to do. Originally, it was thought the biggest problem

would be getting it from the farm to the system and it was thought there would be enough operational flexibility within the reserves that were already available, that the fluxuation of wind could be balanced; that can be done up to about 15%. If there is more than that in the system, flexibility is lost. The search is on to find types of additional resources, technology, or operational changes necessary to balance it, so more wind can be made available.

Representative Jaquet wanted information about solar. What kind of conversations are there for getting the cost of solar down, so wind is not the only renewable resource being relied upon. **Mr. Yost** responded that there are a lot of projects being built with solar, and that all of the trials are being done in the Southwest. As technology becomes available, that energy will be harnessed and batteries are the key to solar. **Representative Jaquet** referred to an article she had read where commercial enterprises are using solar to conserve energy and believes this should be considered. **Mr. Yost** said there are individual applications that probably wouldn't be very cost effective although they would provide conservation; the technology works. Whoever is supplying co-ops is working with them on conservation because they are facing a growth issue and there are limited new sources of energy through BPA. All utilities are looking at conservation, as much conservation as they can economically implement.

Representative Anderson explained that municipal utilities, like co-ops and municipalities, using BPA as a supplier, have so many energy credits required for efficiency. For instance, they may have to buy 20 megawatts of efficiency equipment such as high-efficient water heaters or light bulbs. Those are paid for irregardless of whether the product is sold to a customer. An energy-efficient light bulb would be purchased at retail price and sold for \$1 to a customer. Those items are all sold at a very large discount to customers, that being where the cost of three cents per kilowatt comes from. **Representative Jaquet** followed up with regard to Idaho Power's new program of rebates. "Are you going that far?" **Representative Anderson** said that Energy Star products cover a whole line of products like refrigerators and there are different programs at different times; participation occurs in programs made available at any given time.

Co-chairman Eskridge asked if Energy Star programs are still being done regionally. **Mr. Yost** responded that they are. Energy Star and related services, as they are approved by the Energy Star program, include washer/dryers, refrigerators, water heaters, etc.

Co-chairman Eskridge referred to the instability of wind energy and the problems with balancing it and questioned whether the states with mandatory resource portfolios that require a certain amount of renewables wouldn't then also be faced with a generation problem at some point in time. **Mr. Yost** did not think there would be a problem with generation to supply the load with the caveat that transmission systems would be constructed so there is a free flow within the region. However, there is a dilemma; under the renewable portfolio standards, carbon is to be reduced so coal-fired plants can't be built. Nuclear will not be available for at least 20 years, perhaps, and there are also limits on fossil fuel combustion. In order to build a technology bridge to balance all the parts, gas turbines may have to be used.

Co-chairman Eskridge looked back at a point made at the last meeting that we are being driven back to an over-reliance on natural gas. There is a concern with natural gas being an electric generation resource, whether it should be put to other uses. This amplifies the balancing problem. **Mr. Yost** stated a concern that by using a lot of gas for electric generation instead of heat, the price of natural gas to the consumer would increase. Policy makers at all levels must make the decisions. The Council is providing information, concerns, and options for mechanisms that could be used to resolve problems. The Council, in the power plan, will have recommendations to the utilities and to the PUCs about the issues that should be considered.

Senator Werk asked how Texas is balancing the loads since they have such a large amount of wind energy. **Mr. Yost** answered that they use coal. **Co-chairman Eskridge** reminded everyone that the price in Texas was also 17½ cents per kilowatt hour.

Representative Bell stated that legislation for mandatory solar panels has been passed in Hawaii for **all** buildings. Even though the sun shines most of the time there, solar has the highest cost of any energy; she said it will be interesting to see what Hawaii does with that mandate. **Senator Fulcher** asked if there were any indication of the cost implications. **Representative Bell** responded that she did not have that information, since it is probably too new to evaluate.

Co-chairman Eskridge outlined the need for another meeting, date, and agenda items.

Date: November 18 and possibly 19 Begin at 9:30 a.m. on November 18th
Topics: School Buildings Issue
PUC Rates
Dr. Arjin Makhijani
Peter Kjellander-draft legislation
Update on Residential Building Efficiency Program
Energy Plan Review by LSO
Office on Energy View of State Proceeding in Parallel with Energy Plan
Counterpart to Dr. Makhijani

Co-chairman Eskridge adjourned the meeting at 10:45 a.m.